



Portable Seismic Station State-of-Health Monitoring and Data Management

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Portable seismic experiments typically do not have the infrastructure or resources to telemeter data in real time. Stations are designed to be standalone and record data to onsite media. Infrequent service trips, their frequency dependent on sample rate, storage size and budgetary constraints, are scheduled to assess station health and collect data. Given the infrequency of these service trips it is imperative that the service teams have the tools necessary to assess station health efficiently and effectively. IRIS PASSCAL has taken two approaches in support of these standalone seismic station: a suite of software tools that allow a user to access and review state-of-health (SOH) and waveform data quickly in-field; and for high-latitude deployed stations, an Iridium based short burst data modem that provides SOH information to users to aid in service trip planning.

Post data collection, PASSCAL has developed a series of tools to aid in creating archive and research-ready data. A recently released StationXML generator is designed for in-field use and leverages both ObsPy and the IRIS Nominal Response Library to generate station responses and track inventory changes. Tools for manipulating meta-data and creating data volumes ready for archive are provided to ensure accurate and complete data sets.